

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
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Serial No.: 09/911,670

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For: OUT-OF-BAND MANAGEMENT AND
TRAFFIC MONITORING FOR WIRELESS
ACCESS POINTS

Group Art Unit: 2665

Examiner: NGUYEN, TOAN D.

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AMENDED APPEAL BRIEF

Mail Stop Appeal Brief – Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants hereby submit this Amended Appeal Brief to the Board of Patent Appeals and Interferences in response to the Final Office Action dated August 7, 2006, the Notice of Appeal dated November 6, 2006, and the Notice of Non-Compliant Appeal Brief dated February 26, 2007. Section V was amended to include references to the specification and figures for each independent claim.

No fee is believed due, however, the Assistant Commissioner is authorized to deduct any fee required under 37 C.F.R. §§ 1.16 to 1.21 from the Williams, Morgan & Amerson, P.C. Deposit Account No. 50 0786/6000.001500.

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I. REAL PARTY IN INTEREST

The present application is owned by Symbol Technologies, Inc., the assignee hereof, is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences of which Applicants, Applicants' legal representative, or the Assignee is aware of that will directly affect or be directly affected by or have a bearing on the decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-13 and 15-20 stand rejected and are the subject of this appeal. Claim 14 is objected to as depending from a rejected base claim.

IV. STATUS OF AMENDMENTS

A response to the Final Office Action was entered on October 9, 2006. This response included no amendments. All previous amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

As described starting at paragraph [0008], Figure 1 illustrates a block diagram of a wireless local area network system. The wireless local area network 10 includes a host computer 12 which is connected by a router or switching circuit 14 to access points 20 and 22 over internet communications cables 16 and 18. Each of the access points 20 and 22 provides communications with mobile units 28, 30, 32 and 34 that are in the vicinity of the respective access points. Communications is by a wireless local area network protocol, such as standard 802.11, wherein mobile units become associated with and communicate with the network over access points to provide a wireless data communications with computer 12 and other elements of the system. According to the 802.11 protocol, mobile units 28 and 30, which are in proximity to access point 20 communicate with the radio module of access point 20, indicated by antenna symbol 24. The selection of access point 20 for communications by mobile units 28 and 30 is in accordance with the signal strength of the beacons provided by the access, points and

accordingly the mobile units ideally become associated with the access points in the closest proximity, or having the best conditions for mobile communications.

As described starting at paragraph [0010], it is common practice to provide management communications with access points 20 and 22 through the internet system, such as from computer 12 via router 14 and internet cable 16, 18 to access points 20 and 22. Such management communications may provide updated system information, modified system programming, information concerning association with mobile units and other appropriate data or software for use by access points 20 and 22. In addition computer 12 may communicate with access points 20, 22 to read out data accumulated by access points 20, 22, for example, with respect to the traffic load that they are handling for purposes of communications and system management. In some cases, the ability of computer 12 to successfully access the management communications functions of access points 20 and 22 may not be successful. One reason may be an error in the configuration of the access point 20, 22 for data communications on internet cable 16. Another reason may be an error in the currently stored software for access point 20 or 22. When this communication failure occurs, a process called "in-band management communication failure," it becomes necessary to communicate with the access point 20, 22 via another means in order to correct the failure.

As described starting at paragraph [0015], out of band management and monitoring communications can be conducted with access points 20, 22 using an alternate data communication protocol which is provided between a second radio module in access points 20, 22, represented in Figure 1 by second antennas 36, 38 and a wireless terminal 40 having a communications module, represented by antenna symbol 42. Wireless terminal 40 communicates with access points 20 or 22 via their second radio module preferably using a wireless data communications protocol that is different than the data communications protocol used in the wireless local area network 10. For example if the wireless local area network 10 is communicating with mobile units 28, 30, 32 and 34 using the data communications protocol of IEEE 802.11, wireless terminal 40 may communicate with access points 20, 22 for monitoring and management functions using a second wireless data communications protocol such as a master-slave data communications protocol, which may be Bluetooth.

Thus, with respect to claim 1, a method for conducting out of band management communications with an access point (20, 22) in a system (10) for providing wireless data communication using a first protocol, the access point (20, 22) conducting wireless data communications with mobile units (28, 30, 32, 34) using said first protocol, the invention comprises:

- providing said access point (20, 22) with a radio module (56) operating according to a second wireless communications protocol {paragraphs [0013] – [0014]}, and
- receiving said management communications at said access point (20, 22) using said second wireless communications protocol to allow management of the access point (20, 22) {paragraphs [0013] – [0014]}.

With respect to claim 8, an access point (20, 22) for use in a wireless data communication system (10), the invention comprises:

- a first interface (50) for conducting data communications with one or more computers (12) {paragraphs [0011], [0013] – [0014]};
- a first radio module (54) using a first protocol for transmitting wireless data messages received at said first interface (50) and for receiving and relaying said data messages via said first interface (50) {paragraph [0014]};
- at least one processor (52) connected to said first interface (50) and said radio module (54) for controlling said access point (20) {paragraph [0014]}; and
- a second radio module (56) operating using a second wireless communications protocol, different from said first protocol, for receiving wireless management communications {paragraphs [0013] – [0014]}.

With respect to claim 12, an apparatus, the invention comprises:

- an interface (50) {paragraph [0014]}; and
- a processor (52) communicatively coupled to the interface (50), the processor (52) adapted to {paragraph [0014]}:
 - allow data communications with one or more remote devices (28, 30, 32, 34) over a first communications protocol {paragraphs [0013] – [0014]}; and

allow access to one or more management features of the apparatus over a second communications protocol responsive to received management communications, wherein the second communications protocol is a wireless protocol and is different from the first communications protocol {paragraphs [0013] – [0014]}.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 1-7 and 18-19 are obvious under 35 U.S.C. 103(a) over U.S. Patent No. 6,326,926 (Shoobridge) in view of U.S. Patent No. 6,452,910 (Vij).

B. Whether claims 8-13, 15-17 and 20 are obvious under 35 U.S.C. 103(a) over Vij in view of U.S. Patent No. 6,452,910 (Young).

VII. ARGUMENT

A. SHOOBRIDGE AND VIJ FAIL TO OBVIATE ANY CLAIM

Claims 1-7 and 18-19 are rejected under 35 U.S.C. 103(a) as allegedly being obvious over U.S. Patent No. 6,326,926 (Shoobridge) in view of U.S. Patent No. 6,452,910 (Vij).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. Moreover, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974).

With respect to alleged obviousness, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or

modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. The consistent criterion for determining obviousness is whether the prior art would have suggested to one of ordinary skill in the art that the process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991; *In re O'Farrell*, 853 F.2d 894 (Fed. Cir. 1988); M.P.E.P. § 2142.

A recent Federal Circuit case makes it crystal clear that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35.

Independent claims 1, 8, and 12 include the general feature of conducting communication with mobile units using a first wireless protocol and receiving management communications using a second, different wireless protocol. This feature allows remote management of the access point or other device in the event the connection via the first protocol is unavailable. For instance, if the wireless LAN implementing an 802.11 protocol is unavailable, the access point may be managed by sending management communications over a different protocol connection, such as Bluetooth.

The Office Action asserts that the combination of Shoobridge and Vij teaches these features. Applicants respectfully disagree. The Office Action admits that Shoobridge fails to teach out of band management communications with the access point, and relies on Vij for this teaching. To the contrary, Vij merely teaches an access point operable to allow mobile devices to conduct data communications with an associated network via a wireless LAN protocol or a Bluetooth protocol. Vij fails to teach or suggest that the access point receives management communications over a connection using the second protocol. The passage cited by the Office Action at col. 7, lines 14-17 only mentions regular data communication traffic, not management communications. The passage cited at col. 8, lines 48-50 describes a situation where the internet connected server instructs an idle mobile device to close its connection to free up resources for

other devices. When the mobile device disconnects from the access point, the access point updates its port table.

This scenario fails to suggest receiving management communications using a second, different wireless protocol. The sending of the disconnect request from the server to the mobile device does not constitute receiving management communication via the second protocol at the access point. First, the disconnect request does not constitute management communication with the access point, as it is directed to the mobile device and does not result in management of the access point. Second, even if assuming *arguendo* that the disconnect request is management communication, the disconnect request command is sent via the server using the first protocol to the access point for relaying to the mobile device via the second protocol. The disconnect request is not management communication received at the access point using the second protocol. If the first protocol connection was not available, the disconnect request could not be sent by the server at all. The access point reconfigures its port map after the mobile device disconnects, however, the mobile device sends no message to the access point to initiate this change to the port map, it simply disconnects. The reconfiguration of the port map is simply a connection maintenance task related to supporting the data communication function of the access point, not management of the access point.

The Final Office Action maintains the position that Vij teaches receiving management communications at the access point using the second protocol. It is entirely unclear what the Office Action asserts is the management communication received at the access point using the second protocol to allow management of the access point. The Final Office Action seems to equate the reformatting of data from the vehicle module to receiving management communications at the access point to allow management of the access point. The passage cited by the Office Action related to reformatting data has nothing to do with management communications. The data is reformatted from a Bluetooth® protocol to an Ethernet protocol so the data can be forwarded to the server. The data conversion is not a function related to management of the access point. Indeed, the access point is not at all affected by the content of the data, but rather the data is simply forwarded to the server downstream of the access point. Hence, the access point is merely the conduit of the data between the vehicle module and the server. No aspect of the data reformatting relates to receiving management communications at the access point using a second protocol to allow management of the access point.

The Advisory Action further cites a passage in Vij at col. 2, lines 8-14 that states “The preferred design therefore allows flexible configuration and changes to the wireless bridge as the communication technology and requirements change over time...” This passage merely states that the wireless bridge may be reconfigured. It does not mention at all how the reconfiguration would be accomplished, *i.e.*, using which protocol. Vij does not describe any management functions originating from the vehicle modules, but rather the wireless bridge merely provides data access for the vehicle modules. There is no suggestion whatsoever that management communications would not be conducted in the conventional manner described by Applicants at paragraph [0010], which is through the LAN server. There is no suggestion to perform the configuration using a second protocol different than the first protocol (*i.e.*, the network protocol).

For at least these reasons, claims 1, 8, 12, and all claims depending therefrom are allowable over the combination of Shoobridge and Vij. The Office Action has failed to establish a *prima facie* case of obviousness by failing to meet the three basic criteria. There is no reasonable expectation of success and the combination fail to teach all elements of the claimed subject matter as neither reference teaches conducting management communications using a second protocol different than the data protocol. Accordingly, Applicants respectfully request the rejections of these claims be reversed.

B. VIJ AND YOUNG FAIL TO OBVIATE ANY CLAIM

Claims 8-13, 15-17 and 20 are rejected under 35 U.S.C. 103(a) as allegedly being obvious over Vij in view of U.S. Patent No. 6,452,910 (Young).

The combination of Vij and Young fails to teach the features of the claimed subject matter for at least the reasons provided above regarding the deficiencies in Vij. Young fails to correct the deficiencies of Vij, and the Office Action does not cite Young as teaching any out-of-band management functions. Accordingly, Applicants respectfully request the rejections of these claims be reversed.

VIII. CLAIMS APPENDIX

The claims that are the subject of the present appeal – claims 1-20 – are set forth in the attached “Claims Appendix.”

IX. EVIDENCE APPENDIX

There is no separate Evidence Appendix for this appeal.

X. RELATED PROCEEDINGS APPENDIX

There is no Related Proceedings Appendix for this appeal.

XI. CONCLUSION

The rejections fail because the cited art of record fails to teach all the limitations of the claims. More particularly, the art of record fails to teach conducting communication with mobile units using a first wireless protocol and receiving management communications using a second, different wireless protocol. Thus, the art of record fails to obviate claims 1-13 and 15-20 under 35 U.S.C. § 103(a). Applicants therefore pray that the rejections be reversed and the claims be allowed to issue.

Respectfully submitted,

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APPENDIX
(Claims at Issue)

1. In a system for providing wireless data communication using a first protocol, said system having an access point for conducting wireless data communications with mobile units using said first protocol, a method for conducting out of band management communications with said access point comprising providing said access point with a radio module operating according to a second wireless communications protocol, and receiving said management communications at said access point using said second wireless communications protocol to allow management of the access point.

2. The method according to claim 1 further comprising at least one of configuring one or more resources of said access point and adjusting one or more parameters of said access point responsive to said received management communications.

3. The method according to claim 1 wherein said first protocol is 802.11 Protocol and said second wireless communications protocol is Bluetooth.

4. The method according to claim 3, further comprising authenticating said management communications.

5. The method according to claim 1 wherein said second wireless communications protocol is Bluetooth.

6. The method according to claim 4 further comprising associating said radio module as a slave unit.

7. The method according to claim 1, further comprising authenticating said management communications.

8. An access point for use in a wireless data communication system, comprising:
a first interface for conducting data communications with one or more computers;
a first radio module using a first protocol for transmitting wireless data messages received at said first interface and for receiving and relaying said data messages via said first interface;
at least one processor connected to said first interface and said radio module for controlling said access point; and
a second radio module operating using a second wireless communications protocol, different from said first protocol, for receiving wireless management communications.

9. The access point as specified in claim 8, wherein said second radio module is arranged to operate as a slave module using a master slave protocol.

10. The access point as specified in claim 8, wherein said second radio module is arranged to operate as a slave module using the Bluetooth protocol.

11. The access point as specified in claim 8 wherein said processor is further arranged to authenticate communications via said second radio module.

12. An apparatus, comprising:

an interface; and

a processor communicatively coupled to the interface, the processor adapted to:

allow data communications with one or more remote devices over a first communications protocol; and

allow access to one or more management features of the apparatus over a second communications protocol responsive to received management communications, wherein the second communications protocol is a wireless protocol and is different from the first communications protocol.

13. The apparatus of claim 12, wherein the processor is adapted to allow the data communications through a first radio module and to allow access to the management features through a second radio module.

14. The apparatus of claim 13, wherein the second radio module operates as a slave unit at least during a portion of the time the access to the management features is allowed.

15. The apparatus of claim 12, wherein the processor is further adapted to authenticate communications associated with the access of the management features.

16. The apparatus of claim 12, wherein the first communications protocol is 802.11 protocol and the second communications protocol is Bluetooth protocol.

17. The apparatus of claim 12, wherein the processor is further adapted to allow monitoring of the data communications over the second communications protocol.

18. The method according to claim 1, further comprising at least one of updating system information of said access point, modifying system programming of said access point, and modifying communications parameters of said access point responsive to said received management communications.

19. The method according to claim 1, further comprising monitoring the data communications using said second wireless communications protocol.

20. The access point as specified in claim 8, wherein the processor further allows monitoring the data communications using said second wireless communications protocol.